Applicant : Mark Chiappetta
Serial No. : 09/921,181
Filed   : August 2, 2001
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Attorney's Docket No.: 09945-006001
Client's Ref.: CTR-3 (Sonar Scanner)

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1 to 19. (Cancelled)

20. (Previously Presented) A method comprising:

transmitting a signal;

receiving a first echo in response to the signal; and

receiving a second echo in response to the signal;

wherein if an amplitude of the first echo exceeds a corresponding amplitude of the second echo, then the second echo is determined to be a multipath error from a single object; and

wherein if an amplitude of the second echo exceeds a corresponding amplitude of the first echo, then the first and second echoes are determined to be from first and second objects, respectively, and the method further comprises:

using the first echo to determine information relating to the first object; and

using the second echo to determine information relating to the second object.

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21. (Original) The method of claim 20, wherein the information relating to the first object comprises a distance to the first object.

22. (Original) The method of claim 20, wherein the information relating to the second object comprises a distance to the second object.

23. (Original) The method of claim 20, further comprising storing data that corresponds to the first echo and/or the second echo.

24. (Original) The method of claim 20, wherein the first object is acoustically-weaker than the second object.

25. (Cancelled)

26. (Currently Amended) ~~The method of claim 25,~~ A method comprising:

transmitting a waveform having a predetermined shape;

receiving a signal;

analyzing a shape of the signal; and

determining if the signal comprises an echo of the waveform based on analysis of the shape of the signal and the waveform having the predetermined shape;

wherein, if the signal has substantially the predetermined shape, the signal is determined to be an echo of the waveform.

27. (Currently Amended) ~~The method of claim 25,~~ A method comprising:

transmitting a waveform having a predetermined shape;

receiving a signal;

analyzing a shape of the signal; and

determining if the signal comprises an echo of the waveform based on analysis of the shape of the signal and the waveform having the predetermined shape;

wherein, if the signal deviates beyond a certain tolerance from the predetermined shape, the signal is determined not to be an echo of the waveform.

28 to 53. (Cancelled)

54. (Previously Presented) An apparatus comprising:

a transducer which transmits a signal;

a receiver which receives a first echo and a second echo in response to the signal; and

a processor which compares amplitudes of the first and second echoes;

wherein if an amplitude of the first echo exceeds a corresponding amplitude of the second echo, then the processor determines that the second echo is a multipath error from a single object; and

wherein if an amplitude of the second echo exceeds a corresponding amplitude of the first echo, then the processor determines that the first and second echoes are from first and second objects, respectively, and the processor:

uses the first echo to determine information relating to the first object; and

uses the second echo to determine information relating to the second object.

55. (Original) The apparatus of claim 54, wherein the information relating to the first object comprises a distance to the first object.

56. (Original) The apparatus of claim 54, wherein the information relating to the second object comprises a distance to the second object.

57. (Original) The apparatus of claim 54, further comprising a memory which stores data that corresponds to the first echo and/or the second echo.

58. (Original) The apparatus of claim 54, wherein the first object is acoustically-weaker than the second object.

59. (Cancelled)

60. (Currently Amended) ~~The apparatus of claim 59,~~ An apparatus comprising:

a transducer which transmits a waveform having a predetermined shape;

a receiver which receives a signal; and

a processor which analyzes a shape of the signal, and determines if the signal

comprises an echo of the waveform based on analysis of the shape of the signal and the

waveform having the predetermined shape;

wherein, if the signal has substantially the predetermined shape, the signal is

determined to be an echo of the waveform.

61. (Currently Amended) ~~The apparatus of claim 59,~~ An apparatus comprising:

a transducer which transmits a waveform having a predetermined shape;

a receiver which receives a signal; and

a processor which analyzes a shape of the signal, and determines if the signal

comprises an echo of the waveform based on analysis of the shape of the signal and the

waveform having the predetermined shape;

wherein, if the signal deviates beyond a certain tolerance from the predetermined

shape, the signal is determined not to be an echo of the waveform.

62 to 80. (Cancelled)

81. (Previously Presented) A computer program stored on a computer-readable

medium, the computer program comprising instructions that cause a processor to:

cause a signal to be transmitted;

receive a first echo in response to the signal; and

receive a second echo in response to the signal;

wherein if an amplitude of the first echo exceeds a corresponding amplitude of the

second echo, then the second echo is determined to be a multipath error from a single

object; and

wherein if an amplitude of the second echo exceeds a corresponding amplitude of

the first echo, then the first and second echoes are determined to be from first and second

objects, respectively, and the computer program provides for:

using the first echo to determine information relating to the first object; and

using the second echo to determine information relating to the second

object.

82. (Original) The computer program of claim 81, wherein the information

relating to the first object comprises a distance to the first object.

83. (Original) The computer program of claim 81, wherein the information

relating to the second object comprises a distance to the second object.

84. (Original) The computer program of claim 81, further comprising instructions

to store data that corresponds to the first echo and/or the second echo.

85. (Original) The computer program of claim 81, wherein the first object is

acoustically-weaker than the second object.

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86. (Cancelled)

87. (Currently Amended) ~~The computer program of claim 86,~~ A computer program stored on a computer-readable medium, the computer program comprising instructions that cause a processor to:

cause a waveform having a predetermined shape to be transmitted;

receive a signal;

analyze a shape of the signal; and

determine if the signal comprises an echo of the waveform based on analysis of the shape of the signal and the waveform having the predetermined shape;

wherein, if the signal has substantially the predetermined shape, the signal is determined to be an echo of the waveform.

88. (Currently Amended) ~~The computer program of claim 86,~~ A computer program stored on a computer-readable medium, the computer program comprising instructions that cause a processor to:

cause a waveform having a predetermined shape to be transmitted;

receive a signal;

analyze a shape of the signal; and

determine if the signal comprises an echo of the waveform based on analysis of the shape of the signal and the waveform having the predetermined shape;

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wherein, if the signal deviates beyond a certain tolerance from the predetermined

shape, the signal is determined not to be an echo of the waveform.